

ABSTRACT

The present invention relates to a group of new oligonucleotides sequences with human tumor necrosis factor α (TNF- α) inhibiting activity, which includes DNA sequences and RNA sequences. These oligonucleotides or aptamer can specifically be bound to TNF- α and inhibit the cytotoxicity of TNF- α to L929 cells. Therefore, the aptamer of the present invention may be used to detect TNF- α and provide a therapeutic method for diseases related to the increasing level of TNF- α . Compared with other TNF antagonists such as monoclonal antibody and soluble receptor, the present invention has high specificity, high affinity, quick penetration to target tissue, rapid plasma clearance, and lower immunogenicity. Furthermore, it can be used repeatedly and keeps high concentration in target tissue and the like. It has the advantages of affinity and specificity similar to monoclonal antibodies and also has permeability and pharmacokinetics characteristics similar to small molecular polypeptide. The present invention also refers to derivative of the oligonucleotides sequence, including modified sequence. The present invention may further be manufactured as medicine for therapy and diagnosis of TNF- α related diseases.